



4TH INDUSTRIAL REVOLUTION AND SOCIAL INNOVATION

SESSION 4 - “NEW MANUFACTURING POWERHOUSE CHALLENGES”

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CONTENTS

1. Changing agenda
2. Linking social innovation & 4th Industrial revolution
3. Developing countries



1. CHANGING AGENDA



The World Economic Forum launched the [Global Agenda Council on Social Innovation](#) in 2014 — bringing together an unlikely cross section of corporate leaders, impact investors, and development executives — and offered a definition for CSI that builds on shared value concepts: when companies proactively design and implement business models that increase incomes and better the quality of life of underserved or vulnerable communities and bottom of the pyramid markets.

2015 HARVARD BUSINESS REVIEW RANKING OF THE TOP 100 PERFORMING CEOS IN THE WORLD

A measure aimed at evaluating long-term performance - weighted **social and environmental performance** at 20% of the overall score.

The #1 CEO on the list, Lars Rebien Sørensen of **Novo Nordisk**, crisply summed up the importance of this shift in measuring success: “In the long term, social and environmental issues become financial issues.”

Intractable Problems. Widespread recognition that the big issues not solvable with business as usual.



2. LINKING SOCIAL INNOVATION & 4TH INDUSTRIAL REVOLUTION

SOCIAL INNOVATION DEFINITION

Social innovations are innovations that are social in both their ends and their means—new ideas (products, services, and models) that simultaneously meet social needs. ... Social innovations take place across boundaries between the public sector, the private sector, the third sector, and the household (European Commission, 2013).

5 WAVES OF INNOVATION

The industrial revolution (1771-1829)

The age of steam and railways (1829-75)

The age of steel, electricity and heavy engineering (1875-1908)

The age of oil, the automobile and mass production (1908-71)

The age of information and telecommunications (1971-)

(Techno-economic)

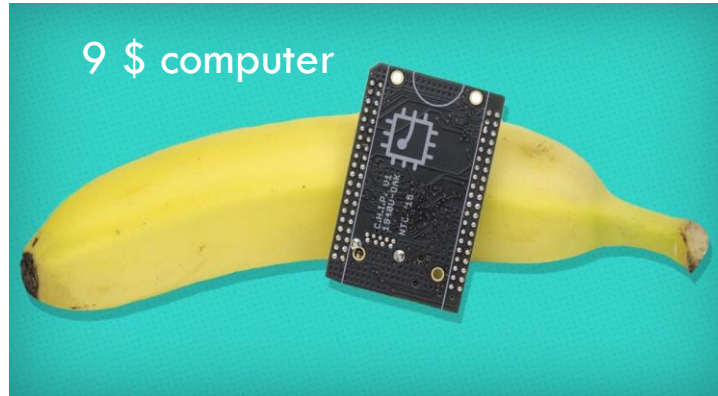
? Social innovation

WHERE SI HAPPENS?

	Social process example	Social outcome example
Individual	Co-production	Low-cost healthcare (Aravind Eye hospital)
Organization	Wiki-production (Wikipedia)	Work integration social enterprise (Greyston Bakery)
Network/movement	Open source technology (Linux)	Non-traditional training and education (Barefoot college)
System	Micro-finance (Grameen Bank)	Mobile banking (MPESA)

Source: Nicholls, A. 2012

<http://www.techinsider.io/the-most-exciting-innovations-of-the-year-2015-10>



The Omni Processor makes clean water profitable





MOBILE HEALTH /MHEALTH

“access, quality, affordability, matching of resources, and behavioral norms (through the exchange of information”

such as telemedicine, health apps for mobile phones, and medical devices which can be monitored remotely



15,000 health-related apps (free and paid), around 60% aimed directly at consumers (2013 data).

Reinforces the EU's desire to move from diagnosis and treatment toward prevention and wellness.

mHealth is less concerned with promoting technology in health, and more about finding new and more efficient ways to manage health data

(source: Curry and Senderson, 2014)



Increased use of mobile phones is expected to deliver **savings** within healthcare of over **100 billion euros** across Europe by 2017.

As well as lowering the annual EU healthcare spend by 18%, mHealth could reduce care costs for chronic conditions by 30 to 35 % through improved treatment compliance and remote patient monitoring.



Human Capital Report (WEF, 2015)

- a life-course approach to human capital, evaluating the levels of education, skills and employment available to people in five distinct age groups, starting from under 15 years to over 65 years.

Fulfilling People's Potential Could Boost Global GDP by 20%



3. 4TH REVOLUTION...DEVELOPING COUNTRIES

GENERAL DATA FOR TURKEY

The GDP value of Turkey represents 1.29 % of the world economy (~800 billion \$)

17th largest economy according to the GDP in PPP values

Annual real GDP growth rate of 4.7%, 2002 - 2014

A member of the OECD and the G20

40% of trade made by the EU

MANUFACTURING

%18 of GDP = industry

Traditional sectors (textiles, food)

Plus: automotive, shipbuilding, electronics and home appliances (e.g. TV, white goods).

%63 of export-import dependency

%4 of exports from high technology industry



12% of the adult population has tertiary education

13% of employees are in S&T occupations

Few researchers (2.9 per thousand employment)

Only 1% of 15-year-olds are top performers in the PISA rankings

GERD reached to 1% in 2015 first time.

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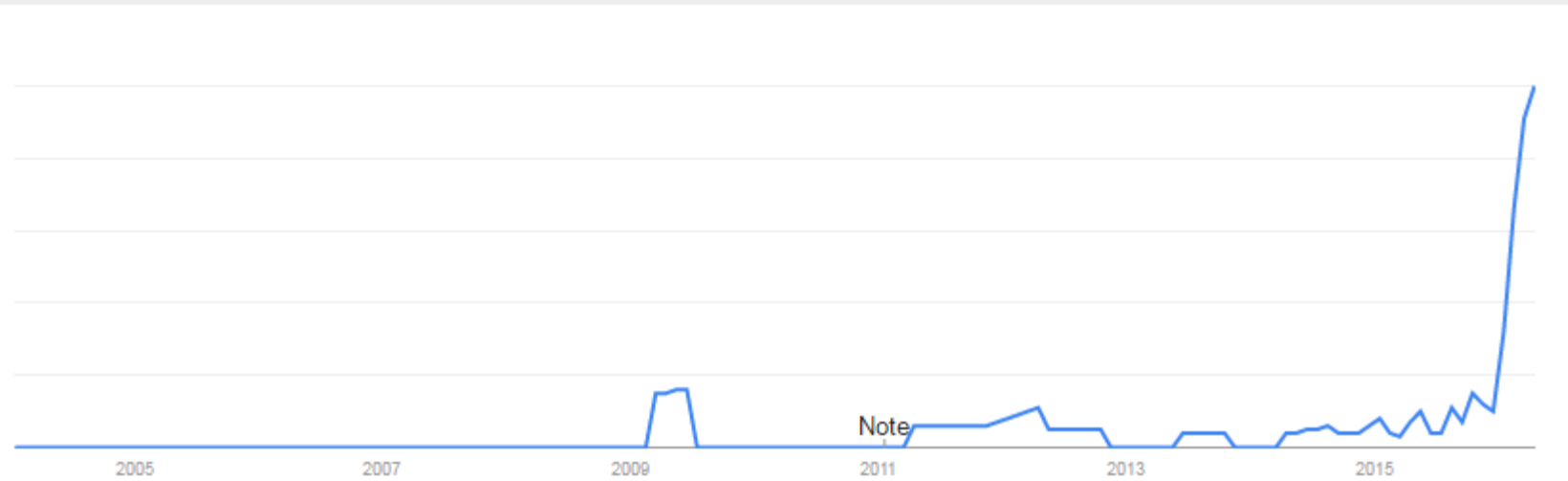
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Interest over time ?

News headlines ?

forecast ?



Pilot sectors where benefits might be high from the 4th Industrial transformation

Sectors	Value added %	Emp %	Total productivity increase	Export/Import	Coverage rate of exports to imports
 Auto	12 %	6 %	7 %	0.9	0.9
 White goods	3 %	1 %	9 %	0.9	0.7
 Machinery	5 %	5 %	5 %	0.9	0.6
 Textile	8 %	13 %	-0.5 %	1	2.4
 Food&agr	10%	12 %	-4 %	0.9	1.9
 Chemicals	5 %	2 %	1 %	1	0.2

Source: TUSIAD, 2016

Potential Benefits of 4th Industrialization in Turkey

Productivity

- %4-7, 17.5 billion \$ (50 milyar TL)

Growth

- %3 in industrial production, %1 GDP, 53-70 billion \$ (150-200 milyar TL)

Investment

- %1 of revenue by industrial org, 3.5-5.3 billion \$ per year (10-15 milyar TL)

Employment

- Increase is expected

Future Risk

- Production cost index (USA=100) in Turkey is 98 and in Germany 121.
- If Turkey does not invest in a decade the difference will drop to 5.

Potential Benefits of 4th Industrialization in Turkey for Social Innovation

No studies yet!!!

But high potential

TURKEY IS OFTEN PLACED LOW IN SOCIAL, ENVIRONMENTAL RANKINGS

Issue	Rank/%
UN Development Index 2011	92nd/187
Legatum Prosperity Index 2012	75 th /110
Year of school attendance 2009 (ERI data)	115 th /173
Adult literacy rate 2009 (ERI data)	73 rd /141
Freedom of press index 2011-12	148 th /179
Yale University Environmental Performance Index	109 th /132
World Economic Forum Gender Equality Gap Index 2012	122 nd /135
% of population >15 without bank account	42%
% of female mayors in Turkey	0.8
% of women facing violence	42



FINAL WORD:

Technology cannot solve every problem in society; but there are very few problems that can be solved without proper utilization of technology.



THANK YOU...